

AMENDMENTS TO THE SPECIFICATION

Please substitute the following replacement paragraph for the paragraph beginning on page 5, line 4 through page 7, line 6 of the specification:

--The single drawing shows an electric arc welder A of the type including a generally fixed power source and having input 12 and output terminal or output 14 wherein the arc voltage is controlled by a circuit when the power supply is on at switch 22. In accordance with normal practice, power source 10 has ground 24. The invention involves a remotely located wire feeder F of the type including an internal spool 30 for electric arc welding wire W. The wire is pulled from spool 30 and pushed through gun or torch 32 to a contact sleeve 34. Electric power is directed to electrode E, which is wire W, for performing an electric arc welding process between the electrode and workpiece WP. Standard ground 36 is connected to the wire feeder through ground clamp 40. Input cable 50 has a length 52 and connects terminal 14 to power lead 54 within feeder F so power is directed to contact sleeve 34 for the welding process when switch 22 of the power supply is closed. In the prior art, a mechanical contact is used in feeder F to direct power from power source 10 to contact sleeve 34. The power supply is on and the welding operation is determined by the closing of the contact in the wire feeder when trigger 100 is closed. In the present invention, power supply 10 is off until the welding process is to be performed. Remote wire feeder F has cabinet 60 with lower casters 62, 64 so that the wire feeder is easily movable into various locations allowed by the length 52 of cable 50. A welding operation at various locations can be performed effectively. This type of welder is used where the welding operation is not fixed and varies, such as in a shipyard. In some instances, cabinet 60 does not include wheels or casters 62, 64, but is merely pulled along by an appropriate handle from one location to another. In accordance with standard technology, feeder F includes a feed roll 70, 72 driven by motor M through shaft 74. Speed is controlled by microprocessor or other controller 80 that receives power from cable 50 through input 82. Output 84 has a voltage to determine the desired speed of motor M for the proper wire feed speed (WFS) of wire W. The speed is used to control arc current. The feed speed is determined by the speed of motor M and is adjusted manually by speed control 90 having an output 92 for controlling the operation of microprocessor controller 80. Movable trigger 100, associated with gun or torch 32, is depressed to close start switch 102 for starting the welding process between electrode E and

workpiece WP. The start condition of switch 102 is sensed by ~~circuit 10~~^{circuit 110} having an output 112 which is digital and coded by an appropriate device 114. Consequently, switch 102 is closed to start a welding process. Sensor 110 creates a coded signal on line 112 indicating that trigger 100 has been closed. In accordance with an aspect of the invention, a voltage knob 120 is set to the desired arc voltage between electrode E and workpiece WP. The position of knob 120 determines the signal on output 122 which is also directed to sensor 110. The output of the voltage control or set knob 120 gives a signal in line 112 which is also modulated by device 114. Thus, a signal in line 112 from sensor 110 indicates when the weld cycle is started by trigger 100 and the desired arc voltage set by knob 120. This coded information is directed to the transceiver 130 that transmits a signal 132, which is an RF electromagnetic signal indicating that the welding process has commenced. In the embodiment using voltage knob 120, the desired voltage for the welding operation is also transmitted to power source 10. These signals are communicated through the air with receiver 140 on power source 10. The output of the receiver is passed through a decoder 132 for transmitting a set point signal to voltage control 20 and the start signal to switch 22. By merely depressing trigger 100 the welding cycle is started by power source 10. A set voltage is applied to line 54. When trigger 100 is released, switch 102 is opened and a signal on line 112 is transmitted by transceiver 130 to turn off power source 10. In this manner, wire feeder F has no mechanical contactor as used in the prior art when a single cable connects a power source with a wire feeder movable into various remote locations. Thus, the disadvantage of a mechanical contactor in such wire feeder is eliminated.--